

**INSTALLATION AND MAINTENANCE INSTRUCTIONS
FOR
MODEL 7590000229**

**SAFETY MESSAGE TO INSTALLERS
OF
FEDERAL SIGNAL LIGHT SYSTEMS**

⚠ WARNING

People's lives depend on your safe installation of our products. It is important to read, understand and follow all instructions shipped with the products. In addition, listed below are some other important safety instructions and precautions you should follow:

- **To properly install a light assembly: you must have a good understanding of automotive electrical procedures and systems, along with proficiency in the installation and use of safety warning equipment.**
- **When drilling into a vehicle structure, be sure that both sides of the surface are clear of anything that could be damaged.**
- **A light system is a high current device. In order for it to function properly, a separate ground connection must be made. If practical, it should be connected to the negative battery terminal. At a minimum, it may be attached to a solid metal body or chassis part that will provide an effective ground path as long as the light system is to be used.**
- **Locate light system controls so the VEHICLE and CONTROLS can be operated safely under all driving conditions.**
- **You should frequently inspect the light system to ensure that it is operating properly and that it is securely attached to the vehicle.**
- **File these instructions in a safe place and refer to them when maintaining and/or reinstalling the product.**

Failure to follow all safety precautions and instructions may result in property damage, serious injury, or death to you or others.

I. GENERAL.

The Federal JetStrobe™ Plus Lightbar is the most aerodynamic strobe bar available today. It utilizes the latest in solid-state electronics and strobe technology. The highly effective quadruple flash pattern is produced by powerful, highly efficient, and reliable power supplies. The ten head models feature an innovative no-dark action pattern. All models incorporate a low intensity double flash mode which reduces power consumption by 60%.

II. UNPACKING.

After unpacking the JetStrobe lightbar, inspect it for damage that may have occurred in transit. If the unit has been damaged, file a claim immediately with the carrier, stating the extent of damage. Carefully check all envelopes, shipping labels and tags before removing or destroying them.

III. INSTALLATION.

A. General.

The lightbar is completely wired at the factory and does not require any additional internal wiring. All the conductors necessary for control of any and all basic and optional functions are contained in the cable.

The basic light functions of the unit must be controlled by a user-supplied control head.

Before proceeding, ensure that the lightbar has been installed on the vehicle roof in accordance with the instructions packed with the mounting kit. Route the lightbar cable as described below.

⚠ WARNING

Light system controls must be located so that VEHICLE and CONTROLS can be operated safely under all driving conditions.

1. Route the control cable into the vehicle and under the dash, near the eventual location of the user-supplied control head.

2. For proper light operation, the control cable must be properly terminated inside the user-supplied control head. Make the appropriate electrical connections shown in Table 1.

Table 1. Electrical Connections.

Wire Color	Functions
BLK	Ground (-)
RED	Strobe Power
RED/BLK	Front Cutoff
YEL	Low Intensity
YEL/BLK	Work Lights
WHT	Tail Lights
ORG	Flasher
BLU	Driver's Brake/Tail
BLU/BLK	Passenger's Brake/Tail

CAUTION

Reverse polarity may damage the power supply and prevent operation. Ensure that correct polarity is observed.

3. Connect the black lead to chassis ground.

NOTE

Most of the lightbar functions can be activated by applying 12VDC to the appropriate control line. The heavy black lead (-) must be connected to vehicle ground, to perform a function check.

B. Side Facing Strobe Insert (JSFEI) Installation.

NOTE

The four insert clips and four #4 screws contained in the packing carton will be used in the following steps.

1. See figure 1. Position two insert clips on the side facing reflector/flash tube assembly and press the clips until they slide into position.

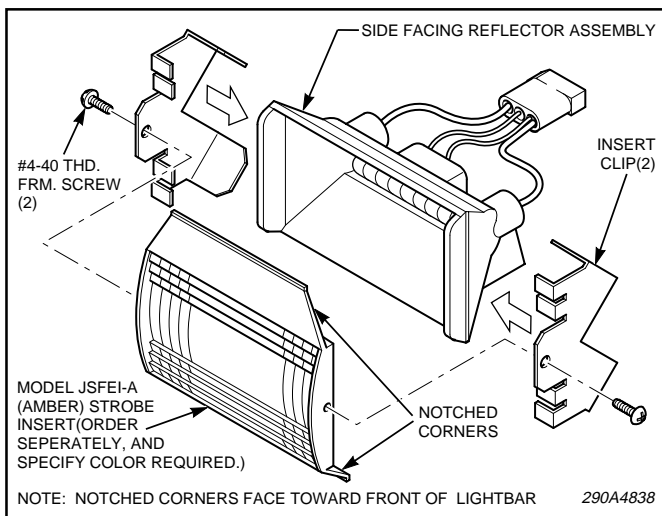


Figure 1.

2. Position the separately purchased insert as shown in figure 1. Align the holes in the insert with the holes in the clips and secure with two #4 screws.

3. Repeat the above steps for the other side facing reflector/flash tube assembly.

C. Function Activation.

1. Standard (Quadruple Flashing) Mode.

The standard mode is activated by applying 12VDC to the control cable's heavy red wire.

2. Front Cutoff.

Front cutoff is activated by applying 12VDC to the control cable's red/blk wire.

3. Low Intensity Double Flash Mode.

Activate the standard or front cutoff mode (described above), and apply 12VDC to the control cable's yellow wire.

IV. BASIC MAINTENANCE.

⚠ WARNING

High voltages are present inside the lightbar. Wait at least ten (10) minutes, after shutting off power, before servicing this unit. Failure to do so may result in property damage, serious injury, or death to you or others.

Disconnect ALL power to the lightbar before any maintenance is performed.

A. Cleaning the Plastic Domes.

⚠ WARNING

Crazing (cracking) of domes will cause reduced effectiveness of light system. Do not use cleaning agents (which will cause crazing) such as strong detergents, solvents, or petroleum products. If crazing of domes does occur, reliability of light for emergency warning purposes may be reduced until domes are replaced.

Ordinary cleaning of the plastic domes can be accomplished by using mild soap and a soft rag. Should fine scratches or a haze appear on the domes, they can ordinarily be removed with a non-abrasive, high quality automotive paste wax.

B. *Halogen Lamp Replacement.*

⚠ WARNING

A serious injury may result if lamp is touched when hot. Always allow lamp to cool before removing. Halogen lamps are pressurized and if broken can result in flying glass. Always wear gloves and eye protection when handling the lamps.

CAUTION

Service life of lamp will be shortened if glass portion is touched. If glass has been handled, clean carefully with a grease solvent.

Replace 50-watt halogen lamps with Federal Part Number 8107A119 and 35-watt with 8548A028.

C. *Cleaning Reflector Assemblies.*

Use a soft tissue to clean the reflectors. Avoid heavy pressure and the use of caustic or petroleum base solvents which will scratch or dull the surface.

D. *Reflector / Flash Tube Assembly Replacement.*

⚠ WARNING

High voltages are present inside the lightbar. Wait at least ten (10) minutes, after shutting off power, before servicing this unit. Failure to do so may result in property damage, serious injury, or death to you or others.

Disconnect ALL power to the lightbar before any maintenance is performed.

As strobe lights are used, flash tubes begin to darken, causing the light output to decrease. Also, as flash tubes age, they may have a tendency to misfire (not fire periodically).

After extended operation, occasionally check for flash tube degradation. Should the tube misfire, have a noticeable decrease in light output, glow continuously, or darken excessively, it should be replaced.

NOTE

Not replacing the reflector/flash tube assembly when any of the above conditions exist could cause a break-down of other power supply components.

To replace a reflector/flash tube assembly, proceed as follows:

1. Unplug the reflector/flash tube assembly's connector from the wiring harness.
2. Remove and retain the two #8 thread-forming screws which secure the reflector/flash tube assembly.
3. Install the new reflector/flash tube assembly (Part No. 8552443) by performing the previous steps in reverse order.

E. *Strobe Power Supply Fuse Replacement.*

⚠ WARNING

High voltages are present inside the lightbar. Wait at least ten (10) minutes, after shutting off power, before servicing this unit. Failure to do so may result in property damage, serious injury, or death to you or others.

Disconnect ALL power to the lightbar before any maintenance is performed.

Replace the fuse on the power supply's top with an exact replacement. The 15A fuse is Federal Part No. 148A142-06.

F. *Strobe Power Supply Replacement.*

⚠ WARNING

High voltages are present inside the lightbar. Wait at least ten (10) minutes, after shutting off power, before servicing this unit. Failure to do so may result in property damage, serious injury, or death to you or others.

Disconnect ALL power to the lightbar before any maintenance is performed.

Other than the fuse, the strobe light power supply does not contain any user serviceable parts. Should a breakdown in the power supply occur, it should be returned to Federal for repair and replaced. To remove the power supply, proceed as follows:

1. Unplug the connectors from the power supply.
2. Remove the four #8 screws which secure the power supply.

3. Install the new power supply by performing the previous steps in reverse order.

G. *TCL Halogen Lamp Replacement.*

⚠ WARNING

A serious injury may result if lamp is touched when hot. Always allow lamp to cool before removing. Halogen lamps are pressurized and if broken can result in flying glass. Always wear gloves and eye protection when handling the lamps.

CAUTION

Service life of lamp will be shortened if glass portion is touched. If glass has been handled, clean carefully with a grease solvent.

To replace the center TCL lamp, proceed as follows:

1. Remove the screws from the end domes.
2. Slide the end domes away from both sides of the center dome.
3. Push down and rotate the center dome to allow it to disengage from the extrusion as shown in figure 2.

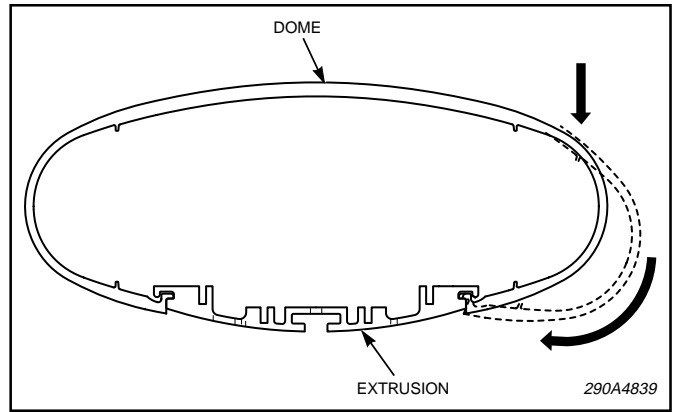


Figure 2.

4. Replace the 50-watt halogen lamp with Federal Part Number 8107A119.
5. Replace the dome by performing steps 1,2 and 3 in reverse order.